The Bulletins are published weekly throughout the school year (thirty issues) to aid teachers and students in keeping abreast of geography behind current news events.

GEOGRAPHIC SCHOOL BULLETINS

of

The National Geographic Society

WASHINGTON 6, D. C.

The National Geographic Society is a non-profit educational and scientific Society established for the increase of geographic knowledge and its popular diffusion.

VOLUME XXV — April 14, 1947 — NUMBER 25

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FENNO JACOBS FROM THREE LIONS

A HIGH-WHEELED CART FRAMES A PARAGUAY WOMAN'S CHARACTERFUL FACE

Paraguayans cut wild quebracho trees to make the giant wheels. Among other uses, the carts haul tannin-rich quebracho logs from the Chaco's jungles to Paraquay River ports (page 3).

Rich Paraguay Land Yields Thin Livelihood

CATTLE ranches (illustration, page 4), cotton fields, and two tropical forest trees yield thin living for most of the million and a quarter Paraguayans, now involved in another of the many revolutionary outbreaks that have marked the history of their republic.

Untouched wealth in and below the rich soil of Paraguay is capable of supporting a prosperous and populous nation. Change takes place slowly in this far inland South American country, however, and cattle raising remains the paramount source of wealth. Hide and canned-meat industries draw on a cattle population of five for each human.

Ax-breaking Hardness of Quebracho Gave Tree Its Name

The navigable Paraguay River, along which the present uprising developed, cuts the California-size republic into two sharply contrasting sections. East of the river lies the developed portion—forested, rolling land of rich red soil. Nine-tenths of the people live in this part, which is little more than one-third of the total area. West of the river is the wild Chaco, vast flat marshland and cattle country where Indian nomads still roam.

Cattle are raised in all parts of Paraguay. Cotton and tobacco lands spread along the Paraguay River. Plentiful along the river's western bank are the handsome quebracho (ax-breaker) hardwood trees, while east of the river are the forests of the native species of holly tree known as the yerba maté (mah-tay).

Paraguayans make railroad ties of quebracho to maintain nearly 800 miles of railway that include the oldest line in South America. They make wheels (illustration, cover) for the country's typical high-hubbed carts. But quebracho's first use in industry has been as the source of tannin, used in leather dyeing and tanning. Quebracho extract has in some years been Paraguay's export leader in money value.

The leaves of the yerba maté tree are roasted and powdered to provide the base of pungent "Paraguay tea." It is the favorite beverage in many parts of South America, preferred to Chinese tea, and to coffee. Early Spaniards compounded its name, calling the tea "yerba," and the gourd from which it is sipped "maté."

Concepción, Rebel Center, Is Dwindling River Port

Paraguay is a maritime nation by virtue of almost 1,000 river miles that link its capital and chief port, Asunción, with the Atlantic at Buenos Aires. The Paraguay River is a highway down the middle of the country. Small steamers take on cargoes at many ports upstream from Asunción, and anchor in its sheltered bay. One-tenth of the republic's population lives in the capital's Old World atmosphere.

Concepción, center of current rebel activity, lies 185 miles upstream. Its port trade has dwindled, shifting partly to the Brazilian railhead town of Porto Esperança to the north, partly to new ports on the upper Paraná River, to the east.

Dispatches from Asunción refer to action at Concepción as occurring

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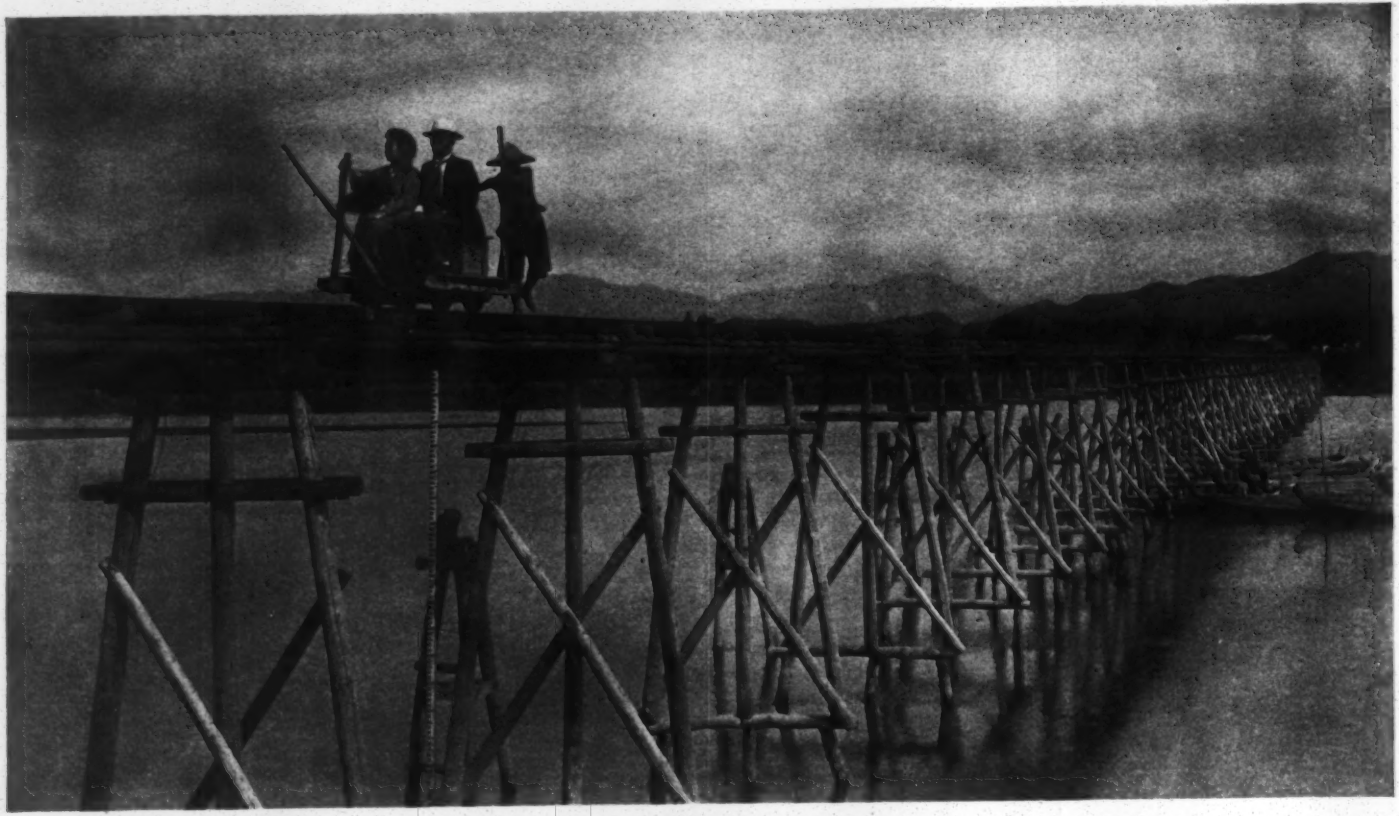

ACROSS A SPINDLE-LEGGED BRIDGE, THE COOLIE-POWERED PUSH CAR TRANSPORTS A JAPANESE COUPLE TOWARD FORMOSA'S MAIN RAIL SYSTEM

During Japan's fifty-year rule of Formosa (page 11), the Chinese on the island were a subject race. All menial tasks were assigned to them. This Chinese "motorman" wears a typical "coolie hat" while his Japanese passenger sits stiffly and importantly in the shade of a Western style hat which matches his Western clothes. His wife wears the traditional kimono of her country. Light timber bridges of this type cross many of the streams that flow across the green plains to Formosa Strait.

Isle of Corfu Grows Olive Branch of Peace

BRITISH-Albanian differences over mine damage to British destroyers in Corfu Channel, subject of a United Nations investigation, involve the Greek island of Corfu (Kérkyra)—long known, literally, for extending the olive branch.

This rocky little island in the Ionian Sea, whose eastern coast curves toward the shores of Albania and Greece to form Corfu Channel, has been for centuries an important olive-producing center. The industry's roots were securely dug in as far back as the 15th century, when Venetian masters of the island paid a bonus for every olive tree planted.

Corfu Channel Is a Lakelike Strait

Long before the development of the olive groves whose branches symbolize peace, the Corfu area was noted for its strategic value in war.

Corfu Channel, broad in the middle, is more like a lake than a strait. The entrance to its southern (Greek) portion is narrowed to a stretch of about 10 miles. In the north, between Corfu Island and the coast of Albania, where the mine explosions occurred, the outlet becomes a slim neck of water only about two miles across.

Sparkling under the warm Mediterranean sun, the blue waters of Corfu Channel are framed on the east by the rugged cliffs of Albania and Greece. On the west rise the wooded, flower-grown hills of the island of Corfu, with its white villas and frowning medieval fortifications.

The island is of limestone formation, with an area of about 275 square miles. Because of its fertile soil and mild climate, any fruit tree which will grow in southern Europe will thrive on Corfu. The bright color of orange groves varies the monotony of miles of gray-green olive trees which cover so much of the land. Even uncultivated areas are painted a dark, shining green by the masses of laurel, myrtle, ilex, and arbutus which grow with no encouragement whatever.

Corfu Served the Allies as a Naval Base in World War I

Since about 740 B.C., when Corinthians from the mainland of Greece settled on the island, Corfu has been ruled by Athenians, Romans, Genoese, Venetians, the Normans of Sicily, and the British, who, after a protectorate of half a century, ceded it to Greece in 1864.

During World War I, Corfu was a base for Allied ships whose job it was to keep the vessels of the Central powers bottled up in the Adriatic.

Twice in modern times Italy has taken over Corfu. It occupied the island briefly in 1923, and again held it, with Germany, during World War II.

Antedating Corfu's 25 centuries of recorded history is a legendary past involving incidents from Homer's *Odyssey*. Corfu is identified as the Homeric island of Scheria. There Odysseus (Ulysses) was washed ashore on Lake Kalikiopulo and found by Nausicaä, daughter of the Phaeacian king. This lake, now rapidly silting up, is in reality a nearly landlocked bay, cut off from Corfu Channel by a peninsula jutting south from the shore below the town of Corfu.

In the narrow entrance to the lake rises the rocky islet (illustration,

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in Paraguay's "north." This geographical haziness corresponds to North American references to Ohio and Indiana towns as in the "Middle West." Concepción is east and slightly south of Paraguay's present geographical center, but long represented the northern limit of development.

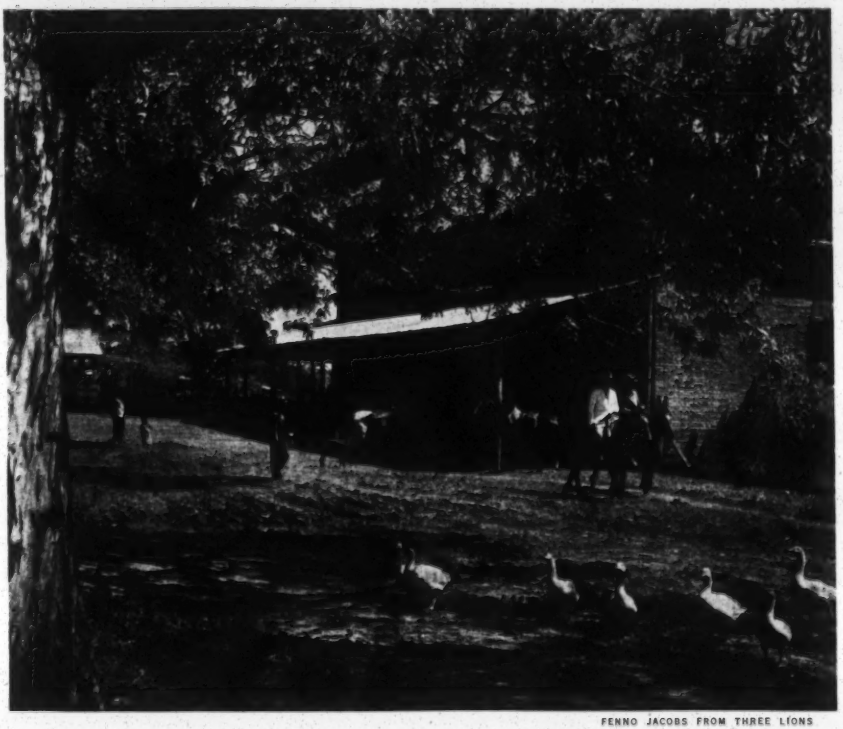
Confidence in Paraguay as a frontier country rich in potential resources has brought colonists by thousands to Paraguay farming locations from many parts of the world. They include Mennonites from Canada and the United States. Natives are largely mixed Spanish and Indian stock, retaining both Spanish and Guaraní Indian speech.

In 1865 the misguided despot ruling the country plunged it into a five-year war against Argentina, Brazil, and Uruguay. The ruinous conflict destroyed virtually all Paraguay wealth and left only about 200,000 inhabitants—nearly all women and young children—of a population slightly more than a million. Recovery, still incomplete, was retarded when the costly 1932 war with Bolivia over the Chaco region broke out.

NOTE: Paraguay is shown on the National Geographic Society's map of South America. Write the Society's headquarters, Washington 6, D. C., for map price list.

For further information, see "Through Paraguay and Southern Matto Grosso," in the *National Geographic Magazine*, October, 1943*; and "River-encircled Paraguay," April, 1933. (*Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.*)

And in the GEOGRAPHIC SCHOOL BULLETINS, April 8, 1946, see "Paraguay's Rivers Aid Logging but Hardwood Logs Won't Float."



FENNO JACOBS FROM THREE LIONS

LEAFY EUCALYPTUS TREES SHADE A PARAGUAY RANCH HOUSE: GEESE, DOGS, SADDLE HORSES, AND COOL VERANDA LEND A HOMEY ATMOSPHERE

Kings Canyon, the "General's" Home

KINGS Canyon, newest of California's four national parks, includes some of the nation's wildest and grandest scenery and some of the world's biggest trees. It lies on the western slopes of the Sierra Nevada where the sequoia "big trees" grow. Northwest 100 miles is Yosemite, and adjoining Kings Canyon on the south is Sequoia National Park.

The most visited area of the park is the General Grant Grove Section, which had been a national park in its own right for 50 years before the establishment of Kings Canyon National Park in 1940. The General Grant Grove Section, 30 miles west of the main body of the park, contains the General Grant Tree, one of the world's most celebrated trees. Near by, in Sequoia National Park, rises the General Sherman Tree. The two sequoias are connected by the Generals Highway.

Redwood Mountain Has Skyline Vista of Sequoias

The General Grant Tree has a bigger base diameter (40.3 feet) than the General Sherman, but it is not as tall. It is "only" 267 feet high. Its age is guessed at from 3,500 to 4,000 years. Services are held each Christmas at its base in the snow-muffled cathedral-like silence.

The Redwood Mountain area of the General Grant Grove Section is newly acquired. It contains a grove of 7,000 sequoias, many of which are silhouetted against the sky on a high ridge—the only place where this occurs. A paved road leads from the grove section of the park to the main portion, higher in the Sierras. It barely enters the park proper; the plan is to preserve in its natural state the 700-square-mile area of rugged peaks, flowery valleys, towering domes, and deep canyons.

This vast area has two focal points, both on its western edge. One is Kings River Canyon itself, on the South Fork of the Kings River (reached by the road). The other is Tehipite Valley on the Middle Fork of the Kings. Both are "Yosemite-type" U-shaped valleys with steep sides climaxed in dome formations. The Kings River valleys have no waterfalls, but in other ways are considered wilder and grander than Yosemite.

Canyon Walls 5,000 Feet High

From 1891 to his death in 1914, John Muir, the famous naturalist, campaigned for a Kings Canyon national park. His description of the canyon is still among the best: "It is about ten miles long, half a mile wide, and the stupendous rocks of purplish gray granite that form the walls are from 2,500 to 5,000 feet in height, while the depth of the valley below the general surface is considerably more than a mile. . . .

"The bottom of the valley is about 5,000 feet above the sea, and its level or gently sloping surface is diversified with flowery meadows and groves and sunny flats, through the midst of which the crystal river, ever changing, ever beautiful, makes its way; now gliding softly with scarce a ripple over beds of brown pebbles" (illustration, page 8), "now rushing and leaping in wild exultation. . . .

"From the head of the valley other mountains rise beyond in glorious

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below), with its cypress-shaded chapel, which, according to local legend, was the ship of Odysseus.

There are numerous villages on the island but the only town is Corfu, the capital. Its 32,000 inhabitants comprise nearly a third of the island's population. The town lies about midway of Corfu's east shore. Around it the coast line curves like a reverse S, with the ancient twin-rock Fortezza Vecchia—relic of Venetian rule—just off the northern bulge. A shore road leads through orange groves and rose gardens to Kastrades, a suburb on the inner curve of the S's south half. South from Kastrades extends the peninsula which forms Lake Kalikiopulo's eastern shore.

Corfu has the characteristic narrow, up-and-down streets of a town which has grown up within ancient fortifications. The Venetians left a few massive structures as reminders of their four centuries of domination, and a relic of the British protectorate is the Malta granite palace built by the English lord high commissioner of the Ionian Islands in the early part of the 19th century. The more recently constructed buildings are French and Italian in style. Corfu has a Greek and a Roman Catholic archbishop, and many churches. Italian and Greek are chiefly spoken.

NOTE: Corfu (Kérkyra) is shown on the Society's map of Central Europe and the Mediterranean.

For additional information, see "New Greece, the Centenarian, Forges Ahead," in the *National Geographic Magazine* for December, 1930.

B. ANTHONY STEWART

PLACID LAKE WATERS MIRROR A SHIP THAT WILL NEVER LEAVE ITS ANCHORAGE

The tiny isle in the entrance to Corfu's bay-lake, Kalikiopulo, is said by legend to be the ship of Odysseus which Poseidon, the sea god, turned to stone in anger against the hero of the "Odyssey." This local legend disregards events as they occurred in the classic epic of the Greek hero. In the foreground the white buildings of the Vlacherna convent repeat themselves in the calm surface of the lake.

Arbor Day Born 75 Years Ago in Nebraska

SETTLERS along the Atlantic coast found America a land of fabulous forests. As early Americans pioneered westward, the forests seemed to follow them. Trees were a liability. They had to be cleared before the rich soil could be farmed. But when the tide of humanity crossed the Missouri River it found itself in a strange, treeless plain. Wood was so scarce that houses were made of sod. Fences were too expensive to erect. Settlers found that lack of trees was a greater drawback than over-abundance.

This feeling of the importance of trees gave Arbor Day to the nation 75 years ago. The first observation of Arbor Day—April 10, 1872—was held, logically enough, in the then practically treeless state of Nebraska. One of its favorite sons, J. Sterling Morton, fathered Arbor Day and caused Nebraska to be known as the Tree Planters State.

Sterling Morton, the Tree Planter, Began His Work in the 1850's

On the diamond jubilee of the first observance of Arbor Day, all 48 states have adopted a tree-planting day, many foreign nations have followed suit, and millions of trees, the world over, stand as a vast, useful monument of the vision of the day's founder.

In 1854 Morton broke the virgin sod of his quarter-section Nebraska homestead, near Nebraska City on the Missouri River. In those days, some talked of planting trees—"but it takes years to grow a tree." Others were satisfied with the plains as they were—"It's nature's will, trees will never grow here." But Morton had other ideas and he carried them beyond mere words. He planted trees.

From the first spring in his prairie home, Sterling Morton, like Johnny Appleseed on a big scale, planted timber and fruit trees. Into the newly turned soil he thrust the cuttings of many species. He learned which ones would best protect crops and homes from the wind which howled across the open prairies in winter and which types were better for other uses.

Young Morton had founded a newspaper—the *Nebraska City News*. In news columns and editorials, he ardently campaigned for more trees to speed Nebraska Territory's development. By 1870 the tireless young editor-farmer had determined to wage a full-scale "campaign for tree growing." He sounded a call for a "grand army of husbandmen" to join in the "battle against the treeless prairie."

Prizes Offered to Those Properly Planting the Most Trees

"Our seedling forests," Morton argued, "will nurse great timbers, from which will come sills and joists to build the homes of thousands of new Nebraskans."

Bringing his campaign to a climax, on January 4, 1872, Sterling Morton went before the Nebraska state board of agriculture at Lincoln. At his suggestion the board offered a special prize of $100 to the county agricultural society, and a farm library worth $25 to the individual "that on April 10 shall plant properly the largest number of trees."

All over Nebraska, on April 10—three-quarters of a century ago—

array, every one of them shining with rock crystals and snow, and with a network of streams that sing their way down from lake to lake through a labyrinth of ice-burnished canyons."

In the High Sierras, just below the 11,000- to 14,000-foot crest peaks, runs the John Muir Trail. It seldom drops below 8,500 feet. It extends 78 miles in Kings Canyon National Park, then enters Sequoia for another long stretch. Trail hikers are impressed by how much territory the national parks embrace, not only in California but all over the country. Actually, the National Park System includes little more than one per cent of the forested lands of the United States, while the entire system contains only 85/100 of one per cent of the total land area.

Since Kings Canyon is to remain a wilderness area, there are no accommodations except for campers in its main portion. The General Grant Grove Section has a lodge with cabin and tent rooms as well as auto camps. These facilities are 64 miles east of Fresno, California. The only access to the park from the east is by trail over the Sierras.

NOTE: Kings Canyon National Park may be located on the Society's map of The Southwestern United States.

S. H. WILLARD

FROM PARADISE VALLEY, NEAR THE SOURCE OF THE KINGS, GRANITE CLIFFS STRIVE FOR THE SKY

Formosa, Rugged Island of Tea and Camphor

FORMOSA, where continuing rebellion has added to the postwar problems of China, greets ships from the east with the highest shore-line cliffs in the world. These rock walls rise 6,000 feet along parts of the coast—five times the height of the Empire State Building.

About the size of Massachusetts and Connecticut combined, the rugged oval island 90 miles off China's Fukien coast has many peaks of 10,000 feet and over, and a name that is almost synonymous with tea and camphor. The name was given the island by Portuguese navigators of the 16th century, who, on sighting its awe-inspiring heights, exclaimed, "*Ilha formosa!*" (beautiful island). The Chinese called it Taiwan, as did the Japanese during their half-century of rule.

Wild Natives Live in the Eastern Mountains

The majority of Formosa's 6,000,000 inhabitants are Chinese, descendants of immigrants who began to cross from the mainland in the 17th century. Most of these, with small groups of Japanese, live on the fertile plain that runs the length of the island's western side.

Lithe and hardy aborigines (illustration, page 12) live in the heavily forested mountain fastnesses of the island's eastern side. They give little attention to government rules and regulations.

Tea and sugar—the chief exports—and rice, oranges, bananas, and pineapples are grown in the fertile western lowlands. Many rivers (illustration, page 2) flow down from the eastern mountain range through this long, slim area of farms. Some of the streams are harnessed to provide power for aluminum, tin-can, and canning factories. Water power also runs sugar mills, chemical works, and shops producing rolling stock for Formosa's 2,000 miles of railway.

Coolies in broad straw hats and light blue pants work the plantations. They live in villages scattered over the green plain or hidden in thick bamboo woods. Dwellings are built of unbaked brick, with thatched roofs and dirt floors. They generally have only one or two rooms. Each family has its own pigs, chickens, ducks, and dogs.

Formosa's Inland Capital Had Few Western Residents

Communication with the China mainland is maintained chiefly through Keelung (Kirun) at the north end of the island, and Takao, on the southwest coast. These towns, 200 miles apart, are connected by railroad.

An hour's ride inland from Keelung, with its harbor on the East China Sea, is Taihoku, capital of the island. Modern government and business buildings border its broad avenues and shady parks. Before the war, it was a commercial city of about 325,000 people, with Chinese and Japanese quarters—whose residents had as little to do with each other as possible, and about fifty non-Asiatics. Making up the Occidental colony were the representatives of several American and British business firms (chiefly tea dealers), consular officials, and members of a Canadian Presbyterian mission and a Spanish Dominican mission.

Nearly two-thirds of Formosa is wooded. Though largely in the in-

farmers and townspeople went out onto their lands and planted more than a million seedlings of oak, pine, willow, elm, and cottonwood. Two years later, by proclamation of the governor of Nebraska, the second Wednesday in April was set aside as Arbor Day, and this date was observed until 1885, when the Nebraska legislature changed it to Sterling Morton's birthday, which falls on April 22.

Tennessee and Kansas (illustration, below) began to celebrate Arbor Day in 1875, and Minnesota joined the procession of Arbor Day states in 1876. By 1893 Arbor Day had spread to many foreign countries and to almost every state in the Union. In the south it is generally celebrated early in the year; in the north, somewhat later in the season.

A national figure, Sterling Morton became Secretary of Agriculture under President Cleveland. He continued to carry on his tree-growing crusade, which he always felt was his major achievement. His love of trees may be seen today in "Arbor Lodge," his home just west of Nebraska City, which in 1923 was made a state park.

While Arbor Day embraces the idea of trees for beauty and decorative purposes, the first thought of the founder was of trees for use. As an outgrowth of Morton's teaching and example, trees today are generally regarded as a crop—and a highly profitable one. Eight thousand times as much wood is cut today for making paper as was needed in Morton's time. Lumber is required for the homes of three and one-half times the population of 1870. Owners of many millions of acres of woodlands have established "tree farms" dedicated to perpetual crops of timber to meet the continually increasing demands.

RICHARD H. STEWART

ANCIENT NEW ENGLAND ELMS? ELMS, YES, BUT GROWING ON KANSAS'S "TREELESS" PLAINS

Foresighted tree planters years ago provided arboreal beauty for this Topeka street. Great areas of the plains and deserts of the West were absolutely without trees until settlers like Sterling Morton, founder of Arbor Day, proved they would grow. The ceremonial planting of trees for beauty and utility quickly spread from the plains to the rest of the country after the first Arbor Day in 1872. The late Grant Wood pictured an Iowa Arbor Day observance in one of his paintings.

accessible mountain regions, 5,000,000 acres of forests supply lumber and pulp. Formosa has the largest number of camphor trees in the world. Cut into chips, the wood is processed in huge iron kettles, then taken to Taihoku to be refined in the world's largest camphor factory. The island has a virtual world monopoly of natural camphor.

Uprisings occurred frequently throughout the half-century from 1895 to 1945 that the Japanese undertook to rule the independence-loving Formosans. From the island the Japanese launched their first air attacks of World War II on the Philippines. General Jonathan Wainwright and 250 other prisoners of war were taken there from Bataan. However, Formosa was by-passed and never became a battleground as did so many of its neighbor islands.

NOTE: Formosa (Taiwan) is shown on the Society's map of China. It also appears in a large-scale inset on the map of Japan and Korea.

For further information, see "I Lived on Formosa," in the *National Geographic Magazine* for January, 1945*; and "Japan and the Pacific," April, 1944; and in the GEOGRAPHIC SCHOOL BULLETINS, November 6, 1944, "Formosa, Japan's Has-Been Pantry and Arsenal."

NAKAJIMA FROM PIX

LURED TO HER WINDOW, A FORMOSA GIRL LISTENS APPRECIATIVELY TO THE PIPING OF A SUITOR

Among the Chinese island's aboriginal peoples, now living in remote mountain areas, courtship requires musical and dancing ability. When a girl reaches 17 the boys start serenading her. After seven or eight years of auditions, she chooses as her husband the most skillful performer. Singing prowess is the first consideration, dancing next. Here the calf-eyed swain, with garlands of wild flowers in his hair, sits in the moonlight and plays a flutelike instrument.